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SCIENCE

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FRIDAY, MARCH 21, 1902.

CONTENTS:

<i>The Distribution of Vacations at American Universities:</i> PROFESSOR CHARLES S. MINOT.	441
<i>The Intellectual Conditions for the Science of Embryology:</i> PROFESSOR W. K. BROOKS..	444
<i>Third Annual Meeting of the Botanists of the Central States:</i> DR. ALBERT SCHNEIDER..	454
<i>Scientific Books:—</i>	
<i>Hazelhurst's Towers and Tanks for Water Works;</i> F. E. T. ROW'S <i>Geometric Exercises in Paper Folding:</i> PROFESSOR F. N. WILLSON. <i>Cole and Johnstone's Pleuronectes (the Plaice):</i> PROFESSOR C. JUDSON HERRICK	463
<i>Societies and Academies:—</i>	
<i>Research Club of the University of Michigan:</i> PROFESSOR FREDERICK C. NEWCOMBE. <i>Zoological Club, University of Chicago:</i> C. M. CHILD. <i>Biological Society of Washington:</i> F. A. LUCAS. <i>New York Academy of Sciences, Section of Geology:</i> EDMUND O. HOVEY. <i>Section of Biology:</i> PROFESSOR HENRY E. CRAMPTON. <i>The Boston Society of Natural History:</i> GLOVER M. ALLEN....	466
<i>Discussion and Correspondence:—</i>	
<i>The Endowment of Research:</i> PROFESSOR ARTHUR HOLLICK. <i>Scientific Nomenclature:</i> PROFESSOR FRANK W. VERY.....	472
<i>Engineering Notes:—</i>	
<i>Industrial Economics; Mr. Marconi's Achievement:</i> PROFESSOR R. H. THURSTON.	473
<i>Annual Report of the Concilium Bibliographicum</i>	475
<i>Scientific Notes and News.....</i>	476
<i>University and Educational News.....</i>	480

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE DISTRIBUTION OF VACATIONS AT AMERICAN UNIVERSITIES.

IN connection with the work of the committee appointed by the American Association for the Advancement of Science for the establishment of Convocation Week, it seemed desirable to gather some more accurate impression as to the periods of vacation now in vogue at our universities and colleges. It is very difficult from the reading of catalogues or even by the tabulation of days to gather a clear impression of the differences in the academic calendars of various institutions, so that, almost necessarily, resort was taken to a graphic representation of the facts. The accompanying diagram is perhaps sufficient to indicate the main conditions. In this diagram each vertical column represents the calendar year of one institution. The horizontal lines indicate divisions by weeks. The dotted lines indicate the first day of each month of the academic year from September 1, 1901, to August 31, 1902. In each vertical column the black spaces correspond to term time and the white spaces to vacations. As in every case Christmas falls in vacation time, its position is marked by a black line crossing each column. Fifteen institutions are represented in the chart; twelve universities and three technological schools. The selection has been made so as to have as representative a variety as possible.

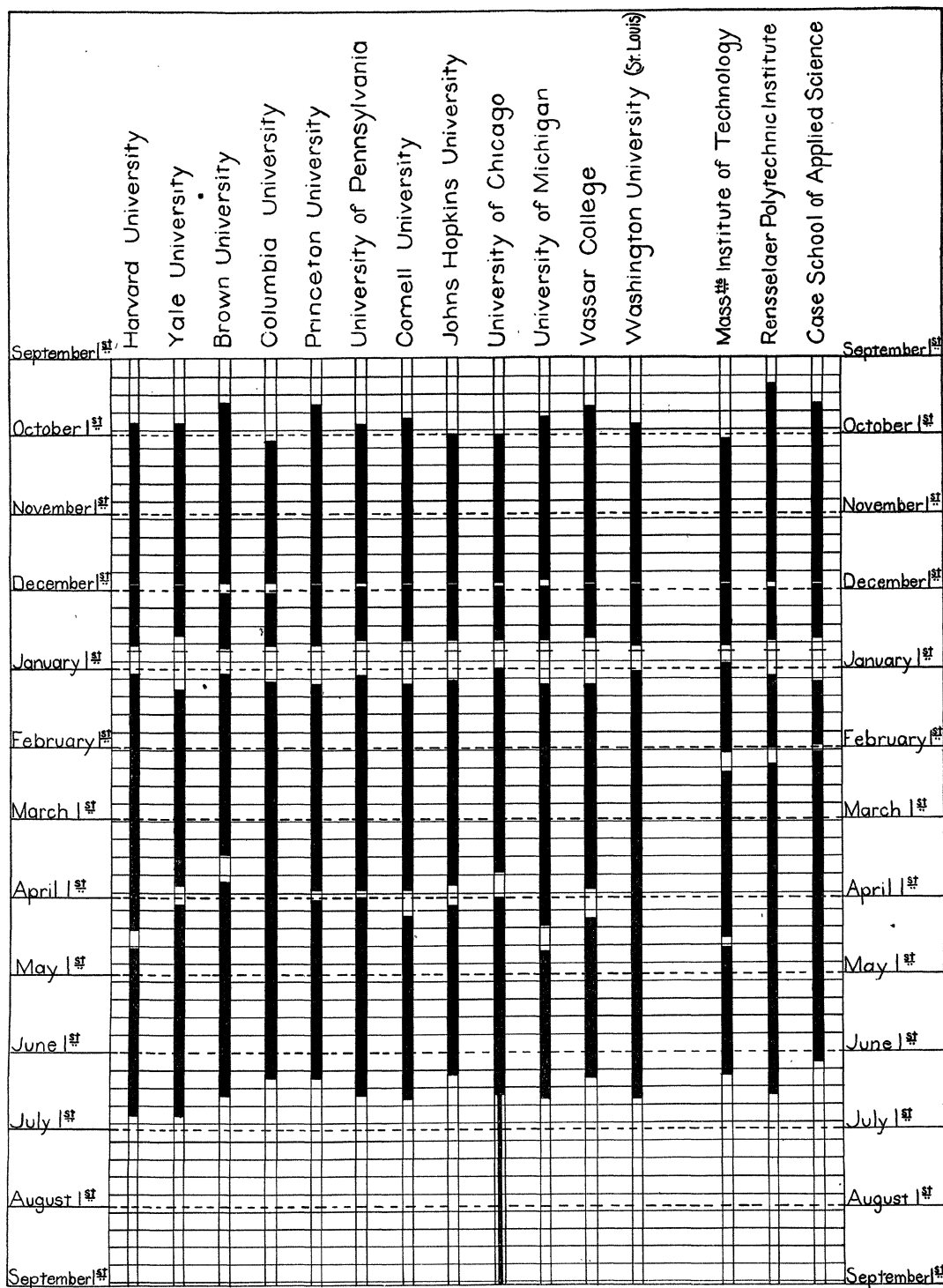
Examination of the diagram shows at once the entire absence of any uniformity in the practice of our universities as to the make-up of their calendar. Each institution seems to be a law unto itself, and except that they all begin in the latter part of September or the earlier part of October; that they all have a Christmas vacation and that they all end the year's work in June, there is no uniformity of practice. But even within these broad limits there is great variety. Three of the universities, for instance, begin the third week in September; four begin the fourth week in September; and three the first week in October. In the duration of the Christmas vacation there is even greater proportionate variety, the length being from one week to three. In regard to spring vacations a still greater diversity occurs, some of the institutions having none, one having a considerable vacation in the middle of March, another having a considerable vacation in the middle of April. The length of vacation varies from nothing up to ten days. Equally conspicuous is the discordance of the time of closing the work of the year. The practice of Chicago University of partially continuing the work of instruction during the summer time differs from that of other universities, and this is indicated in the diagram by representing the summer period for that university as half black and half white.

An examination of these diagrams must, I think, convince every one that it is a practical problem for our universities to consider whether they should not aim at a greater or perhaps even a complete uniformity in the length of their term times and of their vacation times. There would be many advantages in this and it would be one of the factors which might contribute to facilitate the migration of students from one university to another.

Now that we have an association of a number of the leading universities of the country, the machinery for the proper discussion of the length of the university terms already exists, and it is to be hoped that this association will take up the consideration of this problem, study it thoroughly and, if it seems expedient, introduce a reform in the practice as it now exists.

The national movement in favor of Convocation Week is distinctly in favor of uniformity in the distribution of vacations. It seems to me that the success of the movement in behalf of Convocation Week is complete and that all of our universities will ultimately conform their Christmas vacation to this new demand, as so many of our universities have already done.

Another fact which is very striking in a graphic representation is the very large proportion of time which is wholly given up to vacation. In this respect university students are privileged beings, having a degree of liberty, of exoneration from responsibility and work such as is accorded to young men in no other occupation whatever. In old times when our colleges had, not young men, but boys as students, this great amount of vacation was certainly justified as a measure for the protection of the health of growing boys. But why students of advanced years should be treated as if they were incapable of doing the amount of work which they would have to do if they went into any practical business or profession in life, is not clear. I think it may be safely said that from the standpoint of the benefit to students, the amount of university vacation is very excessive, and when we think how much our young men are now retarded when they go through college and still more if they go through a college and a professional school before they can enter on practical life, we must look upon the



great extent of vacation as an evil. With the vacation shortened it would be easily possible to bring these young men into active life at least a year earlier than is now possible, and that would be an immense gain.

From the professors' point of view the circumstances are very different. To few professors is the vacation time wholly a period of vacation. On the contrary, it is a time which he can utilize for study, for research and for the increase of all his mental equipment upon which his proficiency as a professor depends. Moreover there is often work upon examination papers or upon a committee of one kind or another, which the professor must carry on during the vacations while his students are idling. For the professor the vacation is certainly a great advantage and I think from the standpoint of university service it is an essential factor in maintaining his efficiency. If therefore the vacations are shortened, it seems to me that every university should provide additional liberty for its professors. The tendency has hitherto been rather to demand too much teaching from professors, but if they teach too much they cannot be qualified to teach in the best manner and with the greatest efficacy, because every professor, to remain efficient, must have time for study; he must advance, he must grow intellectually, and from mere teaching he can never grow.

A consideration of the circumstances therefore suggests these two thoughts: first, that for the benefit of the students the amount of vacation at our universities should be diminished; secondly, that if this is done, then, to preserve the efficiency of the professors, the amount of free time accorded them during term should be increased.

CHARLES S. MINOT.

HARVARD MEDICAL SCHOOL, March 5, 1902.

*THE INTELLECTUAL CONDITIONS FOR THE
SCIENCE OF EMBRYOLOGY.*

I.

MUCH has been written, from time to time, about the conditions which must be fulfilled by a scientific account of the generation and regeneration of living things out of eggs, although little has been said about the intellectual conditions. We may, nevertheless, find the study of these conditions both interesting and instructive.

Our chief interest in embryology is the hope for a scientific account of ourselves; but we cannot undertake to account for anything unless we know what it is that we undertake to account for.

My purpose is not to give a scientific account of mind, nor to discount the future progress of science. I do not believe we are likely to know anything about the natural history of mind except what we find out by scientific discovery; nor do I believe we are ever likely to have a complete scientific account of anything, or to reach a point where no new discoveries are needed.

My purpose is a more humble one: to do what I can to keep the way clear for progress in embryology, by trying to free my own mind, and the minds of others, from all notions which imply that embryological science is impossible.

PART I. THE DOCTRINE OF THE CHASM.

The notion which, for reasons which will soon be made clear, I have called the doctrine of the chasm, is dry and difficult and unattractive, and as my only aim is to find a way for the embryologist across the chasms which are said to lie in his path, I have made no attempt to stimulate the interest of the reader, confining myself to the briefest outline which will serve my purpose, even if this outline be more arid than the works in which the doctrine of the chasm is defended.